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THE ECONOMIC DISTURBANCES SINCE 1873.

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II.

WHEN the historian of the future writes the history of the nineteenth century he will doubtless assign to the period embraced by the life of the generation terminating in 1885, a place of importance, considered in its relations to the interests of humanity, second to but very few, and perhaps to none, of the many similar epochs of time in any of the centuries that have preceded it; inasmuch as all economists who have specially studied this matter are substantially agreed that, within the period named, man in general has attained to such a greater control over the forces of Nature, and has so compassed their use, that he has been able to do far more work in a given time, obtain a much larger product, "measured by quantity in ratio to a given amount of labor," and reduce the effort necessary to insure a comfortable subsistence in a far greater measure, than it was possible for him to accomplish twenty or thirty years anterior to the time of the present writing. In the absence of sufficiently complete data, it is not easy, and perhaps not possible, to estimate accurately, and specifically state the average saving in time and labor in the world's work of production and distribution that has been thus achieved. In a few departments of industrial effort the saving in both of these factors has certainly amounted to seventy or eighty per cent; in not a few to more than fifty per cent.* Mr. Edward Atkinson, who has

* According to the United States Bureau of Labor (report for 1886), the gain in the power of production in some of the leading industries of the United States "during the past fifteen or twenty years," as measured by the "displacement of the muscular labor" formerly employed to effect a given result (i. e., amount of product), has been as follows: In the manufacture of agricultural implements, from 50 to 70 per cent; in the manufacture of shoes, 80 per cent; in the manufacture of carriages, 65 per cent; in the

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which our Holy Mother the Church practices, namely, the ringing of bells when a thunderbolt impends: thence follows a twofold effect, physical and moral—a physical, because the sound variously disturbs and agitates the air, and by agitation disperses the hot exhalations and dispels the thunder; but the moral effect is the more certain, because by the sound the faithful are stirred to pour forth their prayers, by which they win from God the turning away of the thunderbolt."* Here we see in this branch of thought, as in so many others, at the close of the seventeenth century, the dawn of rationalism. Father De Angelis now keeps demoniacal influence in the background. Little, indeed, is said of the efficiency of bells in putting to flight the legions of Satan: the wise professor is evidently preparing for that inevitable compromise which we see in the history of every science when it is clear that it can no longer be suppressed by ecclesiastical fulminations.

But, while this apparently harmless doctrine regarding modes of dealing with the powers of the air was developed, there were evolved another theory and a series of practices sanctioned by the Church, which must forever be considered as among the fearful calamities in human history. Indeed, few errors have ever cost so much shedding of innocent blood over such wide territory and during so many generations. Out of the old doctrine—pagan and Christian—of evil agency in atmospheric phenomena, was evolved the belief that certain men, women, and children had secured infernal aid to produce whirlwinds, frosts, floods, and the like.

As early as the ninth century one great churchman, Agobard, Archbishop of Lyons, struck a heavy blow at this superstition. His work, "Against the Absurd Opinion of the Vulgar touching Hail and Thunder," shows him to have been one of the most devoted apostles of right reason whom human history has known. By argument and ridicule, and at times by a lofty eloquence, he attempted to breast this tide. One passage is of historical significance. He declares: "The wretched world lies now under the tyranny of foolishness; things are believed by Christians of such absurdity as no one ever could aforetime induce the heathen to believe."†

All in vain; the tide of superstition continued to roll on; great theologians developed it and ecclesiastics favored it; until as we near the end of the mediæval period the infallible voice of Rome is heard accepting it, and clinching this belief into the mind of Christianity. For, in 1437, Pope Eugene IV, by virtue of the teaching power conferred on him by the Almighty, and under the divine guarantee

* See De Angelis, "Lectiones Meteorol.," 75.

† For a very interesting statement of Agobard's position and work, with citations from his "Liber contra insulsam vulgi opinionem de grandine et tonitruis," see Poole, "Illustrations of the History of Mediæval Thought," 40, *et seq.* The works of Agobard may be found in vol. civ of Migne's "Patrol. Lat."

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against any possible error, issued a bull exhorting the inquisitors of heresy and witchcraft to use greater diligence against the human agents of the Prince of Darkness, and especially against those who have the power to produce bad weather. In 1445 Pope Eugene returned again to the charge, and again issued instructions and commands infallibly committing the Church to the doctrine.* But a greater than Eugene followed and stamped the idea yet more deeply into the mind of the Church. On the 7th of December, 1484, Pope Innocent VIII sent forth his bull "*Summis Desiderantes.*" Of all documents ever issued from Rome, imperial or papal, this has doubtless, first and last, cost the greatest shedding of innocent blood. Yet no document was ever more clearly dictated by conscience. Inspired by the scriptural command, "Thou shalt not suffer a witch to live," Pope Innocent exhorted the clergy of Germany to leave no means untried to detect sorcerers, and especially those who by evil weather destroy vineyards, gardens, meadows, and growing crops.† These precepts were based upon various texts of Scripture, especially upon the famous statement in the book of Job; and, to carry them out, witch-finding inquisitors were authorized by the Pope to scour Europe, especially Germany, and a manual was prepared for their use, the "Witch-Hammer," *Malleus Maleficarum.* In this manual, which was revered for centuries, both in Catholic and Protestant countries, as almost divinely inspired, the doctrine of Satanic agency in atmospheric phenomena was further developed, and various means of detecting and punishing it were dwelt upon.‡

With the application of torture to thousands of women, in accordance with the precepts laid down in this work, it was not difficult to extract masses of proof for this "sacred theory" of meteorology. The poor creatures, writhing on the rack, held in horror by those who had been nearest and dearest to them, anxious only for death to relieve their sufferings, confessed to anything and everything that would satisfy the inquisitors and judges. All that was needed was that the inquisitors should ask leading questions# and suggest satisfactory answers: the prisoners, to shorten the torture, were sure sooner or later to give the answer required, even though they knew that this would

* See Raynaldus, "Annales Eccl.," 1437, 1445.

† The Latin text of the bull may be found in the *Malleus* about to be described, in Binsfeld's "De Confessionibus," cited below, or in Roskoff's "Geschichte des Teufels" (Leipsic, 1869), i, 222–225.

‡ There is, so far as I know, no good analysis, in any English book, of the contents of the "Witch-Hammer"; but such may be found in Roskoff's "Geschichte des Teufels," or in Soldan's "Geschichte der Hexenprozesse." Its first dated edition is that of 1489. It was, happily, never translated into any modern tongue.

For still extant lists of such questions, see the "Zeitschrift für deutschen Culturgeschichte" for 1858, pp. 522–528, or Diefenbach, "Der Hexenwahn in Deutschland," pp. 15–17. Father Vincent of Berg (in his "Enchiridium") gives a similar list for use by priests in the confession of the accused.

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